



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,915	07/31/2003	Gunter Kuechler	010408.52444US	7568

23911 7590 10/16/2007
CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

WONG, EDNA

ART UNIT	PAPER NUMBER
----------	--------------

1795

MAIL DATE	DELIVERY MODE
-----------	---------------

10/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/630,915

Applicant(s)

KUECHLER, GUNTER

Examiner

Edna Wong

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,12,14,16,17 and 19-30 is/are pending in the application.
- 4a) Of the above claim(s) 19-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,12,14,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

This is in response to the Amendment dated August 15, 2007. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Response to Amendment

Election/Restrictions

This application contains claims **19-30** drawn to an invention nonelected without traverse in the reply filed on December 15, 2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

Claims **3, 5, 7, 9, 11, 13, 15, 16 and 18** have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The rejection of claims 3, 5, 7, 9, 11, 13, 15, 16 and 18 under 35 U.S.C. 112, second paragraph, has been withdrawn in view of Applicant's amendment.

Claim Rejections - 35 USC § 102

I. Claims **1-5, 12-15 and 17-18** have been rejected under 35 U.S.C. 102(b) as being anticipated by **Pollard** (US Patent No. 6,034,322).

The rejection of claims 1-5, 12-15 and 17-18 under 35 U.S.C. 102(b) as being anticipated by Pollard has been withdrawn in view of Applicant's amendment.

II. Claims **1-5 and 8-18** have been rejected under 35 U.S.C. 102(e) as being anticipated by **Glenn et al.** (US Patent No. 6,359,209).

The rejection of claims 1-5 and 8-18 under 35 U.S.C. 102(e) as being anticipated by Glenn et al. has been withdrawn in view of Applicant's amendment.

III. Claims **1-7 and 12-18** have been rejected under 35 U.S.C. 102(e) as being anticipated by **Ho et al.** (US Publication Application No. 2002/0179141).

The rejection of claims 1-7 and 12-18 under 35 U.S.C. 102(e) as being anticipated by Ho et al. has been withdrawn in view of Applicant's amendment.

Claim Rejections - 35 USC § 103

I. Claims **6-11** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Pollard** as applied to claims 1-5, 12-15 and 17-18 above.

The rejection of claims 6-11 under 35 U.S.C. 103(a) as being unpatentable over Pollard as applied to claims 1-5, 12-15 and 17-18 above has been withdrawn in view of Applicant's amendment.

II. Claims **6 and 7** have been rejected under 35 U.S.C. 103(a) as being

unpatentable over **Glenn** as applied to claims 1-5 and 8-18 above.

The rejection of claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Glenn as applied to claims 1-5 and 8-18 above has been withdrawn in view of Applicant's amendment.

III. Claims **8 -11** have been rejected under 35 U.S.C. 103(a) as being unpatentable over **Ho et al.** as applied to claims 1-7 and 12-18 above.

The rejection of claims 8-11 under 35 U.S.C. 103(a) as being unpatentable over Ho et al. as applied to claims 1-7 and 12-18 above has been withdrawn in view of Applicant's amendment.

Response to Amendment

Claim Rejections - 35 USC § 112

I. Claims **1, 12, 14 and 16-17** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1

line 3, recites "a metallic strip".

Applicant's specification, pages 1-9, does not mention a metallic strip. Thus,

there is insufficient written description to inform a skilled artisan that applicant was in possession of the claimed invention as a whole at the time the application was filed.

However, there is sufficient written description for a metal strip (page 2, [0006]; and page 4, [0013]).

The Examiner has carefully considered the entire specification as originally filed, however, there is found no literal support in the specification for the newly added limitations in amended claim 1. Applicants have not provided the page number and line numbers from the specification as to where the newly added limitations are coming from. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983) *aff'd mem.* 738 F.2d 453 (Fed. Cir. 1984).

line 5, recites "tabs".

Applicant's specification, pages 1-9, does not mention tabs. Thus, there is insufficient written description to inform a skilled artisan that applicant was in possession of the claimed invention as a whole at the time the application was filed.

However, there is sufficient written description for connection strips 4 (page 6, [0023]).

The Examiner has carefully considered the entire specification as originally filed, however, there is found no literal support in the specification for the newly added limitations in amended claim 1. Applicants have not provided the page number and line numbers from the specification as to where the newly added limitations are coming

from. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983) *aff'd mem.* 738 F.2d 453 (Fed. Cir. 1984).

lines 12-13, recite "band-shaped round, oval, angular and polygonal".

Applicant's specification, pages 1-9, does not mention band-shaped round, oval, angular and polygonal. Thus, there is insufficient written description to inform a skilled artisan that applicant was in possession of the claimed invention as a whole at the time the application was filed.

However, there is sufficient written description for frame-shaped round, oval and polygonal (page 4, [0010] to [0011]).

The Examiner has carefully considered the entire specification as originally filed, however, there is found no literal support in the specification for the newly added limitations in amended claim 1. Applicants have not provided the page number and line numbers from the specification as to where the newly added limitations are coming from. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983) *aff'd mem.* 738 F.2d 453 (Fed. Cir. 1984).

Claim 16

lines 3-4, recite "the connector comprises one of molybdenum **and** another element of the sixth subgroup of the periodic table of elements".

Applicant's specification, pages 1-9, does not mention wherein the connector

comprises one of molybdenum and another element of the sixth subgroup of the periodic table of elements. Thus, there is insufficient written description to inform a skilled artisan that applicant was in possession of the claimed invention as a whole at the time the application was filed.

However, there is sufficient written description for a conductive material of the sixth subgroup, such as molybdenum *or* another subgroup element with comparable material characteristics, such as an element of the sixth subgroup (page 4, [0012]).

The Examiner has carefully considered the entire specification as originally filed, however, there is found no literal support in the specification for the newly added limitations in amended claim 16. Applicants have not provided the page number and line numbers from the specification as to where the newly added limitations are coming from. *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983) *aff'd mem.* 738 F.2d 453 (Fed. Cir. 1984).

II. Claims 1, 12, 14 and 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1

line 12, it appears that the "marginal area" is the same as the marginal area recited in claim 1, line 11. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after that word "which". If it is not, then what is the

relationship between the marginal areas?

line 13, the alternative expression of the Markush group is improper (MPEP § 2173.05(h)). The word "and" should be amended to the word -- or --.

Claim 12

line 2, the alternative expression of the Markush group is improper (MPEP § 2173.05(h)). The word "and" should be amended to the word -- or --.

lines 2-3, recite "wherein the **connector** comprises one of a precious metal and a conductive material with a precious-metal coating".

This claim limitation is further limiting the preamble of claim 1 and not the body of claim 1. Thus, it is unclear what is the relationship between the metal strip (from claim 1, line 3) and the precious metal or the conductive material with a precious-metal coating.

Claim 16

line 2, it appears that "a conductive material" is the same as the conductive material recited in claim 12, line 3. However, it is unclear if it is. If it is, then it is suggested that the word "a" be amended to the word -- the --. If it is not, then what is the relationship between the conductive materials?

line 3, the alternative expression of the Markush group is improper (MPEP § 2173.05(h)). The word "and" should be amended to the word -- or --.

Claim 17

line 2, recites "produced by stamping, etching or eroding".

This claim limitation is further limiting the preamble of claim 1 and not the body of claim 1. Thus, it is unclear how this limitation further limits what the solar cell connector comprises.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **1 and 17** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Webb et al.** (US Patent No. 3,422,213).

Webb teaches a solar cell connector (= an electrically conductive connector strip) [col. 1, lines 13-21] comprising:

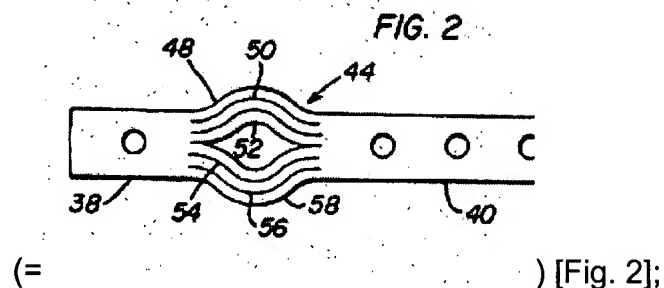
(a) a metallic strip (= an elongated strip formed from beryllium-copper or other suitable metals, such as nickel, copper-tin-phosphorous, nickel-silver, and copper) [col. 3, line 53; and col. 4, lines 56-61];

(b) first **38** (= a first section) and second **40** (= a second section) connection areas formed in said metallic strip, said connection areas comprising tabs for connection to respective solar cells (= the connectors thus permit the coupling of a larger group of electrical devices such as solar cells) [col. 4, lines 62-67; and Fig. 2]; and

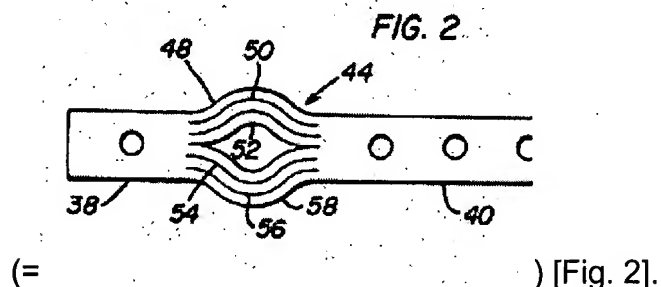
(c) a centrally situated compensation section **44** (= a stress relieved area) formed in said metallic strip integrally with and intermediate said connection areas (= providing a connector of the flat strip type which includes a stress relieved area in the form of a plurality of integral strand-like portions) [col. 2, lines 26-47; and Fig. 2];

wherein, the compensation section comprises a single central opening in said metallic strip (= the single central opening parted by the strands **48, 50, 52, 54, 56, 58**) [Fig. 2]; and

said central opening is intermediate said first **38** and second **40** connection areas, and is delimited by a surrounding marginal area of said metallic strip, which marginal area is one of band-shaped round, **oval**, angular and polygonal



whereby said first 38 and second 40 connection areas and said compensation section 44 comprise a unitary continuous segment of said metallic strip



The solar cell connector is produced by stamping, etching or eroding (= by chemical milling) [col. 2, lines 31-35; col. 3, lines 6-9; and col. 4, lines 54-56].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim **12, 14 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Webb et al.** (US Patent No. 3,422,213) as applied to claims 1 and 17 above, and further in view of **Pollard** (US Patent No. 6,034,322).

Webb is as applied above and incorporated herein.

The connector of Webb differs from the instant invention because Webb does not disclose the following:

- a. Wherein the connector comprises one of a precious metal and a conductive material with a precious-metal coating, as recited in claim 12.
- b. Wherein said precious metal is selected from the group consisting of gold and silver, as recited in claim 14.
- c. Wherein a conductive material of the connector comprises one of molybdenum and another element of the sixth subgroup of the periodic table of elements, as recited in claim 16.

Web teaches that the connectors are formed from beryllium-copper, **other suitable metals**, such as nickel, copper-tin-phosphorous, nickel-**silver**, and copper may be employed (col. 4, lines 56-61).

Like Webb, Pollard teaches interconnect members for solar cells (col. 5, lines 42-58; and Figs. 6 and 7). Pollard teaches that interconnects **26** for electrically joining circuitry on the cell **22** to an adjoining cell **28** are either **pure silver** or **silver plated** kovar, **molybdenum** or Invar. These latter materials provide a better thermal expansion match to the cell material. Silver is soft and compliant, not requiring a perfect match (col. 1, lines 37-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the connector described by Webb with wherein the connector comprises one of a precious metal and a conductive material with a precious-metal coating; wherein said precious metal is selected from the group consisting of gold and silver; and wherein a conductive material of the connector comprises one of molybdenum and another element of the sixth subgroup of the periodic table of elements because pure silver or silver plated molybdenum would have provided a better thermal expansion match to the cell material. Silver is soft and compliant, not requiring a perfect match as taught by Pollard (col. 1, lines 37-42).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

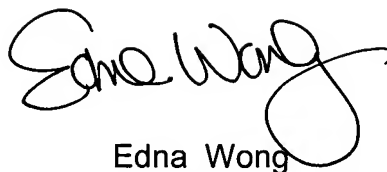
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Edna Wong". The signature is fluid and cursive, with the first name "Edna" and last name "Wong" clearly distinguishable.

Edna Wong
Primary Examiner
Art Unit 1795

EW
October 14, 2007